

TARO ROOT APHID

Dwight Sato
Cooperative Extension Service
University of Hawaii-Hawaii County CES

Jack Beardsley
Department of Entomology Chairman
University of Hawaii - Manoa

Arnold Hara
Department of Entomology
University of Hawaii - Hawaii County

Abstract

The taro root aphid, Patchiella reaumuri, is one of the most destructive insect pests in dryland taro. Crop damage up to 75% has been known to occur with Chinese taro and up to 100% with dasheen. The taro root aphid is host specific and apparently, it infests only taro and closely related plants of the family Araceae. In Hawaii, this species does not produce winged sexual forms, and reproduction is without fertilization by males. Taro root aphids have been observed to be associated with numerous attending ants, which probably moves the aphids around, enabling them to develop damaging populations.

No effective insecticide is available for use against root aphids on taro. Spread of this insect occurs mainly by planting infested "seed pieces" (hulis).

Description

The taro root aphid, Patchiella reaumuri, is one of the most destructive insect pests in dryland taro. It greatly reduces plant vigor, yield, and quality in dryland taro by sucking sap from taro roots. Crop damage up to 75% has been known with Chinese taro and up to 100% with dasheen. Extensive aphid damage usually have been observed to be coincidental with drought conditions during early plant growth stages.

This aphid is yellow and is usually covered with a mass of fine cottony and waxy threads. Signs of infestation appear sporadically as white mold on the fibrous taro roots. When populations are high, colonies are found both on roots and around the basal portions of leaf sheaths.

The taro root aphid is host-specific. Apparently, it infests only taro and closely related plants of the family Araceae. This aphid has been reported on dryland Chinese taro, dasheen, and Lehua taro on the island of Hawaii and is not known to occur on the other islands. It has not been reported to be a problem with taro grown under wetland conditions. In Hawaii, this species does not produce winged sexual forms and reproduction is without fertilization by males. Taro root aphids have been observed to be associated with numerous attending ants, which probably move the aphids around, enabling them to develop damaging populations.

Control

No effective insecticide is available for use against root aphids on taro. Spread of this insect occurs mainly by the planting of infested "seed pieces" (hulis). It is very important, therefore, to select clean seed pieces and to plant only in unaffected areas. If the proper moisture requirement is met and taro root aphid population is kept low during the early stages of plant growth, crop damage may be minimized. If you realize a heavy infestation, immediately remove and destroy the crop, including all culls or unharvested cormels, being sure to check around the border areas. The ground should be given a thorough and deep cultivation to drive ants away and to promote root degradation. Fallow or rotate with a non-taro type crop for at least one year.

Quarantine regulations in Hawaii prohibit the shipment of taro hulis originating from the Big Island. The purpose is to reduce the risk of pest establishment on the other islands where taro is grown.

References

- Blackman, R.L. and V.F. Eastop. 1984. Aphids on the World's Crops: An Identification and Information Guide. Chichester, England: John Wiley & Sons. p 323.
- Governor's Agriculture Coordinating Committee 1986. Taro Industry Analysis No. 3.
- Metcalf, C.L. and W.P. Flint. 1962. Destructive and Useful Insects: Their Habits and Control. 4th Ed. New York: McGraw-Hill Book Co.

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